

VIDEO TOASTER[®]

The
Revolutionary
All-In-One
Broadcast
Studio

Only \$1595

NowT
INCORPORATED

**In the future,
advanced
technology
will let
people
communicate
with the
moving
images of
video as
easily as
they do now
on paper.**

**Welcome to
the future.**

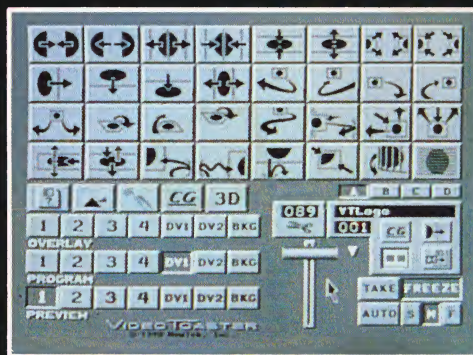
INCLUDES ALL THIS

4 Input Production Switcher

The Video Toaster switcher replaces broadcast switchers costing tens-of-thousands of dollars. With it, you can perform cuts, fades, and wipes between any of 7 sources including 4 video inputs, 2 frame buffers, and a color background generator. Use the built-in keyer to mix video images (i.e., a person superimposed in front of a weather map). Other advanced features include:

- 2 video outputs (Program and Preview)
- Linear keyer
- External GPI trigger
- Automatic or manual (T-bar) control of transitions
- Luminance key with adjustable clip level

The switcher control panel has been streamlined to provide rapid access to all Toaster features and takes less time to learn and operate than any other switcher in the world. The switcher also serves as the base of operations for the entire Toaster system.



Digital Video Effects

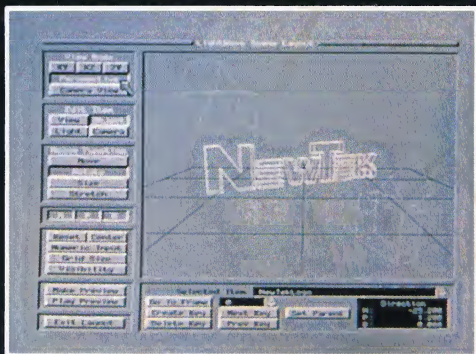
The Toaster has the power to manipulate live broadcast video in real-time (60 fields-per-second). The Toaster features hundreds of digital video effects such as:

- Flip
- Tumble
- Curtains
- Push On
- Expand
- Mirrors
- Stretch
- Zoom
- Blinds
- Slats
- Strobe
- Mosaic
- Spin
- Page Peel
- Tiles
- Push Off
- Slide
- Split
- Squeeze
- Pull
- Roll
- Trajectories
- Analog Trails
- Digital Trails

Network quality effects are as easy as clicking the mouse and sliding the T-Bar. The Toaster is unique in that new effects and capabilities can be added with inexpensive software updates on disk. There are also many original Toaster Digital Effects (TDE's) that are not possible with any other single device including whips, zoom trails, and the "Transporter".



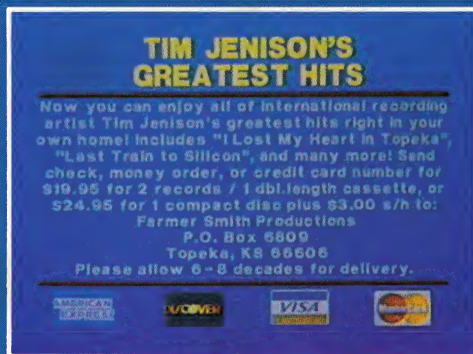
LightWave 3D Animation



Create animated videos in full broadcast resolution and 16.8 million colors. LightWave 3D offers many high-end capabilities previously found only in dedicated graphics workstations. Everything from flying logos and sports graphics to the most sophisticated effects seen on MTV are now within your reach. LightWave 3D offers hundreds of advanced features including:

- Interactive wireframe editing with real-time feedback
- Camera and lights can track any object during a scene
- Real-time scene preview with "jog" shuttle control
- Fast photorealistic rendering with adjustable anti-aliasing
- 24-bit (16.8 million color) broadcast resolution output
- Accurate ray-traced shadows available
- Particle systems with variable motion blur
- Fog effect with variable fog color and density
- Multilayer image compositing with animated fade and dissolve

Toaster Character Generator



Add titles to your videos in 35ns resolution (the same high resolution that the networks use). Features include:

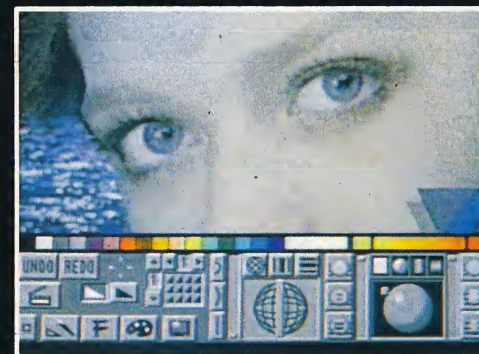
- 16.8 million colors
- Over 30 standard anti-aliased fonts
- Generation of semi-transparent shadows
- Variable outline and shadow
- Choice of drop or cast shadows
- Variable speed scroll and crawl
- 24-bit smooth color gradations
- 100 pages of on-line storage

ToasterCG is completely integrated with the Toaster switcher including spinning, tumbling and zooming title screens. Use the included 16.8 million color ChromaFonts such as brass, chrome, and rainbow to create dazzling graphic displays.

ToasterPaint

ToasterPaint gives you all the tools you need to create original artwork and amazing network quality videographics. Use 16.8 million colors to paint in full television resolution on grabbed video stills or LightWave 3D images. Pictures can easily be colorized or recolored for photographic quality retouching. Includes powerful tools such as:

- Create original art or paint on grabbed video stills
- Anti-aliased texture mapping, warping, and rotation
- Complete drawing tools—ellipse, rectangle, area fill, polygon, and more
- Variable transparency, smooth shading and blending
- 11 drawing modes including RubThru, Blur, Range, Lighten, & Darken
- Text Rendering with optional anti-aliasing
- Colorize or re-color any grabbed Toaster image
- Composite two or more frame store images together
- Cut-and-paste with any tool or any shape
- Magnify mode for detailed work



Dual Frame Buffers/ Genlock



These are 16.8 million color frame buffers with full television resolution. The composite output meets the most stringent requirements for broadcast video. Because there are two frame buffers, one can be loading while the other is shown on screen for seamless live presentations. Toaster effects can be done between live video and either buffer, as well as between the buffers themselves. The Toaster allows overlaying Amiga mode graphics on incoming video or over either frame buffer.

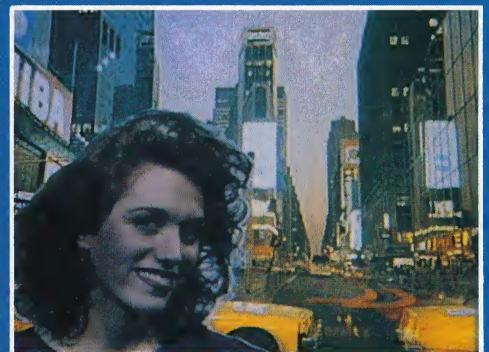
ChromaFX Color Processor

ChromaFX is a powerful color processing engine capable of producing color negatives, monochrome, solarization, posterization, color vignettes, custom lighting, tinting and photographic filter effects. ChromaFX will also allow you to subtly alter the brightness and contrast in different areas of the video image. You can design your own color effects with virtually limitless combinations or use any of the dozens built into ChromaFX. Standard effects include Nuke, Chrome, Snow Lights, Snow Cycle, Sunset Filter, Zebra Stripes and many others. The stunning visual effects created with ChromaFX are useful for applications from fantastic, science fiction scenes to music videos to very subtle effects that might otherwise require a difficult lighting effect.



Frame Grabber/ Frame Store

The Toaster can grab and save a full resolution television frame (in 16.8 million colors) and has sophisticated motion removal algorithms to provide a rock-solid freeze frame. These frames may then be loaded into ToasterPaint or LightWave 3D for further manipulation. Up to 1000 frames may be saved on each frame store device (depending on available storage space), and the Toaster will control up to eight different devices. Stored frames can be loaded and displayed in the frame buffers in as short as 1/5th of a second from RAM or 3 seconds from hard drive. These frames can also be used as inputs to the switcher for transitions and digital effects. The Toaster also allows grabbing up to 8 consecutive fields of live video and cycling the fields for animation.





The World's First Broadcast Quality Video Computer.

The Video Toaster® puts the power to produce network quality television on your desktop. Powerful video tools previously available only to high-end post production studios can now be yours. The Video Toaster is a unique computer-on-a-card that fits in the video slot of an Amiga 2000 personal computer. The Video Toaster's unprecedented price of \$1595 is made possible by new technology invented at NewTek and incorporated into four special VLSI custom chips. These chips bring the Amiga up to full television color and resolution and perform real-time video manipulation. Simply add the Video Toaster to an Amiga 2000 or 2500 computer and you'll have the world's first desktop television studio.

"The Video Toaster is poised to join the camcorder and VCR as a video appliance"

—Videography



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Video Standard:	NTSC
Inputs:	(4) composite synchronous input BNC connectors 1 volt p-p Coherent chroma Software controllable 75 Ohm termination or high impedance for loop-through on each input Keyed clamping DC restore
Main Video Output:	1 Volt p-p composite into 75 Ohms
Preview Output:	1 Volt p-p composite into 75 Ohms
Reference Video:	Composite color or black burst on video input #1
Sequence Trigger:	GPI trigger with optional cable
Insertion Delay:	400 ns Video in to Main out
Sync Generator:	Sync, blanking and burst internally regenerated. Meets all FCC broadcast video and RS-170A specifications
Signal to Noise:	>55 dB
Sampling Rate:	14.31818 MHz
Quantizing:	8 bits
Differential Phase:	<3 degrees
Luminance Bandwidth:	+0/-3 dB to 5 MHz
Luminance Resolution:	>400 lines
Memory:	8 fields (expandable)
Still Store:	Dual outputs independently routed to switcher Stores 1, 2, 4, or 8 fields Configurable as single frame with 8 bit Alpha Channel
Capacity:	Up to 1000 frames depending on hard disk
Load Time:	From RAM: <1/5 second From Hard Disk: <3 seconds Depending on hard disk specifications.
Switcher:	7 inputs: External video 1-4 Digital channel 1 Digital channel 2 Matte generator Independent software control of input channel at every pixel (70 ns) Linear Keyer: 16 steps @ 70 ns resolution 256 steps @ 280 ns resolution Still Store Alpha Channel: 256 steps @ 70 ns resolution Dual luminance keyer for dual threshold keying or two independent keys. Dual clip level control with 256 steps. Key input switchable to any input or digital still store. Independently selectable Preview output
Digital Effects:	Arbitrary geometric remapping at 60 fps
Host Computer:	Amiga 2000 or 2500 5 Mb of RAM and hard drive required
Power Requirements:	Power supplied by host computer
Dimensions:	13.5 x 5 x 1 inches

Specifications subject to change without notice.

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